

Application No. 10/626,260

### **REMARKS**

Consideration of the present application and RCE is respectfully requested in light of the above amendments to the claims, the telephonic interviews conducted on June 19, 2007 and August 30, 2007, and in view of the following remarks. Applicants extend their gratitude to Examiner Ruddock for her time and consideration given during the telephonic interviews and in her reconsideration of the present application and RCE.

### **Status of the Claims**

After entry of the foregoing amendments, Claims 1, 3-9, and 18-26 are pending in the present application. Claims 1 and 18 are the independent claims. Applicants have amended Claims 1, 3-6, 9, and 18 herein. Applicants also have added new Claims 19-26 to provide an additional scope of protection commensurate with the original disclosure. No new matter has been added.

### **Summary of Telephonic Interviews**

Applicants and the undersigned thank Examiner Ruddock for her time and consideration given during the telephonic interviews of June 19, 2007 and August 30, 2007. During those telephonic interviews, Applicants' representative explained that the combination of U.S. Patent No. 6,855,650 to Bohannon, Jr. ("*Bohannon*"), U.S. Patent No. 5,849,645 to Lancaster ("*Lancaster*"), and U.S. Patent No. 5,972,463 to Martin et al. ("*Martin*") fails to disclose, teach, or suggest all of the elements recited in a proposed amended version of independent Claim 1.

In particular, Applicants' representative explained that the cited documents fail to disclose, teach, or suggest at least the combination of: (1) at least one polymer net layer; (2) a non-woven mat comprising a plurality of multi-dimensional polymer fibers, wherein a cross-sectional geometry of respective ones of the multi-dimensional polymer fibers comprise: (a) a substantially circular, substantially uniform core region, (b) at least three substantially convex and smoothly curved elongated lobes substantially equally spaced about a circumference of the core region, and (c) at least three substantially concave and smoothly curved channels separating the elongated lobes, a portion of each smoothly curved channel comprising a plurality of points along the circumference of the core region, said fibers being configured to break up a flow and an energy of water passing over said soil and said mat; and (3) a polymer yarn, stitching said net

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layer to said non-woven mat, as recited in a proposed amended version of independent Claim 1. Specifically, Applicants' representative explained that none of the cited documents, including the newly cited *Martin* document, disclose, teach, or suggest multi-dimensional polymer fibers having the specific cross-sectional geometry of this combination.

Although the Examiner admitted that the cited documents do not disclose this cross-sectional geometry, an agreement was not reached regarding patentability of the claims because the Examiner wanted to consider whether Applicants' original application adequately disclosed this cross-sectional geometry and whether it would have been obvious to a person of ordinary skill in the art at the time of Applicants' invention to modify the cited documents to arrive at Applicants' claimed cross-sectional geometry.

Applicants and the undersigned request the Examiner to review this interview summary and to approve it by writing "Interview Record Okay" along with her initials and the date next to the summary in the margin as required by M.P.E.P. § 713.04, page 700-202.

#### **Support for Claim Amendments**

In this Response, Applicants have amended independent Claims 1 and 18 to recite a specific cross-sectional geometry. Applicants submit that Applicants' original application provides support for this specific cross-sectional geometry in at least Figures 3A and 3-6.

#### **Claim Rejections Under 35 U.S.C. § 103(a)**

In the Office Action, the Examiner rejected Claims 1, 3-9, and 18 under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Bohannon*, *Lancaster*, and *Martin*. Applicants respectfully traverse these claim rejections.

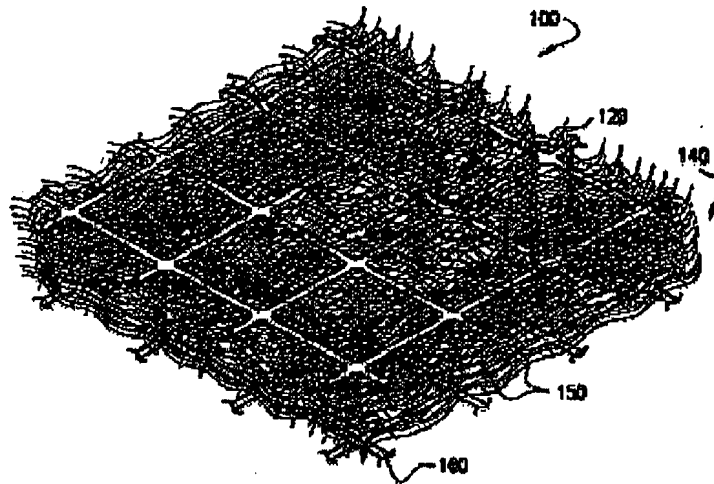
In particular, Applicants submit that none of these documents, alone or in combination, disclose, teach, or suggest the combination of: (1) at least one polymer net layer; and (2) a non-woven mat comprising a plurality of multi-dimensional polymer fibers, wherein a cross-sectional geometry of respective ones of the multi-dimensional polymer fibers comprises: (a) a substantially circular, substantially uniform core region, (b) at least three substantially convex and smoothly curved elongated lobes substantially equally spaced about a circumference of the core region, each elongated lobe consisting of a single, substantially symmetrical half-ellipse shaped concave member, and (c) at least three substantially concave and smoothly curved

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channels separating the elongated lobes, a portion of each smoothly curved channel comprising a plurality of points along the circumference of the core region, as presently recited in each of amended independent Claims 1 and 18.

Bohannon

With reference to Figure 3 of *Bohannon*, reproduced below, *Bohannon* is directed to an erosion control blanket 100 formed of three layers of material. The first layer is a top sheet 120 of an open-meshed material of natural or synthetic fibers. The second layer is a loose fiber filler 140 arranged to form a three-dimensional matrix, which provides the erosion control blanket 100 with a required amount of loft or resiliency. The third layer is a bottom sheet 160 of open-meshed material that generally resembles the top sheet 120, i.e., the first layer, in construction. See *Bohannon* at Col. 3, lines 41-50.



**FIG. 3**

The filler material 140 of the erosion control blanket 100 is an arrangement of crimped polymer fibers 150. Although the polymer fibers 150 may be arranged in various ways, *Bohannon* suggests randomly dispersing the fibers 150 to produce a blanket 100 with sufficient

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loft. In one embodiment, the polymer fibers 150 are formed of a post-consumer polyester, namely polyethylene terephthalate (PET). See Bohannon at Col. 4, lines 42-52.

As admitted by the Examiner in the Office Action, *Bohannon* fails to provide any description of the geometry and/or configuration of the cross sections of the polymer fibers 150. Therefore, *Bohannon* fails to disclose, teach, or suggest a non-woven mat comprising a plurality of multi-dimensional polymer fibers, wherein a cross-sectional geometry of respective ones of the multi-dimensional polymer fibers comprises: (a) a substantially circular, substantially uniform core region, (b) at least three substantially convex and smoothly curved elongated lobes substantially equally spaced about a circumference of the core region, each elongated lobe consisting of a single, substantially symmetrical half-ellipse shaped concave member, and (c) at least three substantially concave and smoothly curved channels separating the elongated lobes, a portion of each smoothly curved channel comprising a plurality of points along the circumference of the core region, as presently recited in each of amended independent Claims 1 and 18. In addition, the Examiner admitted in the Office Action that *Bohannon* fails to disclose a polymer yarn for stitching a net layer to the non-woven mat, as recited in independent Claim 1. Accordingly, Applicants submit that *Bohannon* alone cannot anticipate or render obvious Applicants' claimed invention.

#### Lancaster

In the Office Action, the Examiner cited *Lancaster* as allegedly teaching a polyester stitching thread for securing together a bottom netting, fiber matrix, and top netting. As Applicants understand, *Lancaster* is directed to a reinforced composite matting. With reference to Figure 4 of *Lancaster*, reproduced below, the matting includes a heavy weight bottom netting 30, a fiber matrix 20, a super heavy weight cusped netting 40, and a heavy weight top netting 50. The fiber matrix 20 preferably includes multiple strands of coconut fibers. See Lancaster at Col. 4, lines 13-17.

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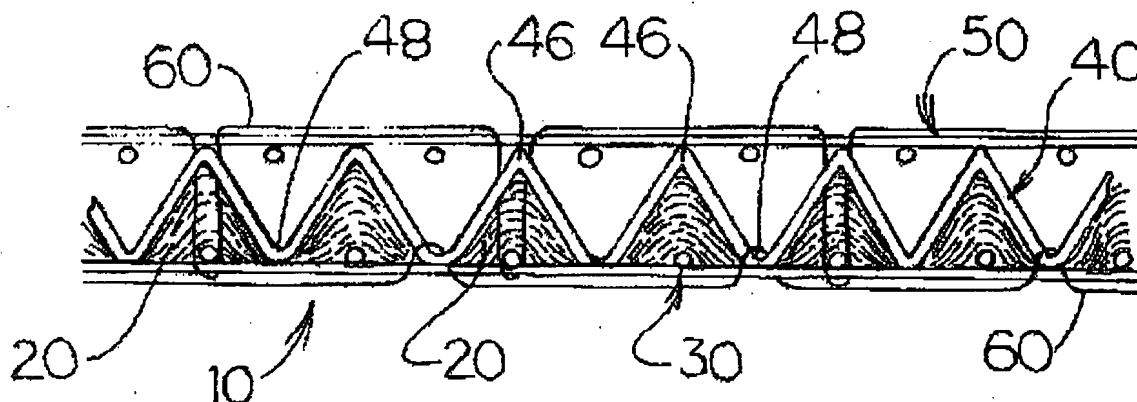


FIG. 4

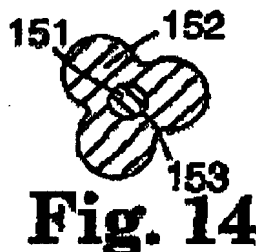
The bottom netting 30, the fiber matrix 20, the cusped netting 40, and the top netting 50 are preferably secured together by stitching strands of 60 to 100 per cent polyester black thread in spaced relation. *See Lancaster* at Col. 5, lines 22-25. Even assuming for the sake of argument only that this thread is equivalent to the polymer yarn of Applicants' independent Claim 1, as asserted by the Examiner in the Office Action, Applicants submit that Applicants' claimed invention is still patentable over at least *Lancaster*.

*Lancaster* fails to provide any description of the geometry and/or configuration of the cross sections of any fibers within the matting, including the fibers in the fiber matrix 20. Therefore, *Lancaster* fails to disclose, teach, or suggest a non-woven mat comprising a plurality of multi-dimensional polymer fibers, wherein a cross-sectional geometry of respective ones of the multi-dimensional polymer fibers comprises: (a) a substantially circular, substantially uniform core region, (b) at least three substantially convex and smoothly curved elongated lobes substantially equally spaced about a circumference of the core region, each elongated lobe consisting of a single, substantially symmetrical half-ellipse shaped concave member, and (c) at least three substantially concave and smoothly curved channels separating the elongated lobes, a portion of each smoothly curved channel comprising a plurality of points along the circumference of the core region, as presently recited in each of amended independent Claims 1 and 18. Accordingly, Applicants submit that *Lancaster* alone cannot anticipate or render obvious Applicants' claimed invention.

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Martin

In the Office Action, the Examiner cited Figure 14 of *Martin*, reproduced below, as allegedly disclosing multicomponent filaments of a web, wherein the filaments can have trilobal cross sections with at least three substantially concave and smoothly curved channels separating at least three substantially convex and smoothly curved lobes. As Applicants understand, *Martin* is directed to undrawn, tough, durably melt-bondable, macrodenier, thermoplastic, multicomponent filaments. Figure 14 of *Martin* illustrates a trilobal filament with a single core 151 and a single sheath 152, with a single interface 153 between the core 151 and the sheath 152. The core 151 is essentially centrally disposed within a trilobal sheath 152. See *Martin* at Col. 13, line 64 to Col. 14, line 12.



While Applicants disagree with the Examiner that the filament illustrated in Figure 14 of *Martin* has a cross section with at least three substantially concave and smoothly curved channels separating at least three substantially convex and smoothly curved lobes, and therefore believe that Applicants' independent Claims 1 and 18 were patentable as previously presented, Applicants have amended independent Claims 1 and 18 herein to specify that a cross-sectional geometry of respective ones of the multi-dimensional polymer fibers of Applicants' invention further comprises: (a) a substantially circular, substantially uniform core region, (b) at least three substantially convex and smoothly curved elongated lobes substantially equally spaced about a circumference of the core region, each elongated lobe consisting of a single, substantially symmetrical half-ellipse shaped concave member, and (c) at least three substantially concave and smoothly curved channels separating the elongated lobes, a portion of each smoothly curved channel comprising a plurality of points along the circumference of the core region.

Applicants respectfully submit that *Martin* fails to disclose, teach, or suggest at least this cross-sectional geometry. In particular, Applicants note that the lobes of the sheath 152 of *Martin* are round, rather than elongated and substantially symmetrical half-ellipse shaped, and

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that each of the alleged "channels" between the lobes does not include a plurality of points along the circumference of a substantially uniform core region. Even assuming for the sake of argument only that the core 151 of *Martin* can be equated with Applicants' claimed "core region," each of the "channels" between the lobes of *Martin* does not include a plurality of points along the circumference of the core 151.

Therefore, *Martin* fails to disclose, teach, or suggest a non-woven mat comprising a plurality of multi-dimensional polymer fibers, wherein a cross-sectional geometry of respective ones of the multi-dimensional polymer fibers comprises: (a) a substantially circular, substantially uniform core region, (b) at least three substantially convex and smoothly curved elongated lobes substantially equally spaced about a circumference of the core region, each elongated lobe consisting of a single, substantially symmetrical half-ellipse shaped concave member, and (c) at least three substantially concave and smoothly curved channels separating the elongated lobes, a portion of each smoothly curved channel comprising a plurality of points along the circumference of the core region, as presently recited in each of amended independent Claims 1 and 18. Accordingly, Applicants submit that *Martin* cannot anticipate or render obvious Applicants' claimed invention.

Therefore, Applicants submit that each of independent Claims 1 and 18 is patentable over the cited documents, including *Bohannon*, *Lancaster*, and *Martin*. Accordingly, Applicants respectfully request withdrawal of the rejections of these claims.

#### Dependent Claims

Each of Claims 3-9 and 19-26 depends directly or indirectly from one of the independent claims discussed above. Accordingly, for at least the reasons discussed above with respect to the independent claims, Applicants submit that the dependent claims are likewise patentable over at least *Bohannon*, *Lancaster*, and *Martin*. The dependent claims also recite additional features that further define the claimed invention over *Bohannon*, *Lancaster*, and *Martin*. Accordingly, Applicants request separate and individual consideration of each dependent claim.

Applicants submit that the independent claims are allowable over the documents of record, as discussed above. Applicants have not acquiesced to any rejections of the independent or dependent claims and reserve the right to address the patentability of any additional claim features in the future.

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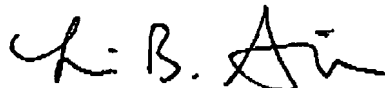
**Information Disclosure Statement**

Applicants cite the information on the attached Form PTO/SB/08A, "Information Disclosure Statement by Applicant," pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98. This Information Disclosure Statement (IDS) lists documents cited in co-pending U.S. Patent Application No. 11/297,022. The citation of this information does not constitute an admission of priority or that any cited item is available as a reference, or a waiver of any right Applicants may have under applicable statutes, Rules of Practice in patent cases, or otherwise.

**CONCLUSION**

Applicants submit the foregoing as a full and complete response to the Office Action. Applicants submit that this application is in condition for allowance and respectfully request such action. If any issues exist that can be resolved with an Examiner's Amendment or a telephone conference, please contact Applicants' undersigned attorney at 404.572.4874.

Respectfully submitted,



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